

# EFFICIENT AND COMPREHENSIVE METHOD TO CALCULATE IC PACKAGE OR PCB TRACE MUTUAL INDUCTANCE USING CIRCULAR SEGMENTS AND LOOKUP TABLES

## Abstract

Disclosed is an improved method of determining mutual inductance of wires in an electronic design. First, the invention selects a pair of wires. Then, the invention adds concentric ring lines to the design. The invention then adds straight line segments representing each wire between points where each corresponding wire crosses the adjacent ring lines. Each of the straight lines run from a point where a corresponding wire crosses an outer concentric ring line to a point where the corresponding wire crosses an inner concentric ring line. The invention can then very simply calculate the mutual inductance between the straight line segments (not the actual potentially non-linear wires themselves). The mutual inductance of the straight line segments only comprises an approximate mutual inductance of the wires because the actual mutual

inductance of the wires may be slightly different if the wires are non-linear.